

ELECTROCHEMICAL CELL PLATE WITH INTEGRAL SEALS

ABSTRACT OF THE DISCLOSURE

An electrochemical cell component having a plate with opposing faces, seal grooves formed in each of the faces, and a plurality of holes extending through the plate between the first and second grooves with an integral sealing member formed in the grooves and holes. The seal grooves extend continuously around the perimeter of the faces and the grooves may follow any type of contiguous pattern. The component may form a frame surrounding a flow field. Bipolar plates and fluid cooled bipolar plates may comprise this electrochemical cell component. Alternatively, a seal groove may be formed in only the first face and a ridge formed in the second face of the component. The ridge may be used to form a fluid tight seal when pressed into an opposing surface of the membrane in a membrane and electrode assembly. A sealing material is contained within the seal groove.